

# COOPER LIGHTING - METALUX®

## DESCRIPTION

The MB series is a functional and multi-purpose narrow profile fluorescent High-Bay that incorporates premium performance with durable construction. Designed for T5 fluorescent technology, the MB series offers both high performance and application versatility with three optical configurations for general and aisle applications.

Illumination solution in commercial, industrial and retail applications, MB series can be used in warehouses and retail store distribution centers.

Catalog #	Type
Project	
Comments	Date
Prepared by	

## SPECIFICATION FEATURES

### A ... Construction

Die formed channel from 20 gauge prime cold rolled steel. Numerous KOs for ease of installation. End plate quickly converts to snap-in channel connector for continuous row alignment. Push-in style lampholders snap in to installed tracks. Channel/wireway cover positively secured with mechanical fastener.

### B ... Electrical\*

Ballasts are Class "P" and are positively secured. Rotor-lock lampholders ensure positive lamp retention. UL/CUL listed. Suitable for damp locations.

### C ... Finish

Multistage iron phosphate pretreatment ensures maximum bonding and rust inhibitor.

### D ... Channel/Wireway Cover

Heavy gauge prime cold rolled steel. Tight fit for ease of maintenance.

### E ... Reflector

Specular Miro reflectors for precise light control minimum 95% total reflectivity. Three optical distribution patterns are available: Focus - SC less than .9 Task - .9 less than or equal to SC less than 1.2 Normal - 1.2 less than or equal to SC less than or equal to 1.4

### F ... Mounting

Suspension is convenient and flexible with the SS Aircraft Cable "Y" Toggle Mounting Kits. Adjustment for luminaire mounting height is provided at luminaire rather than structure. Order a rigid exterior connector/coupling with pre-punched holes to facilitate easy installation of coupled sections up to 32' long.

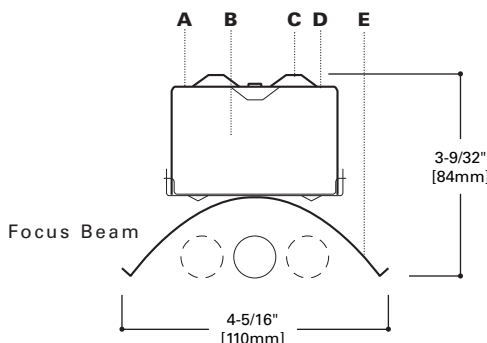
### Option

Integral occupancy sensor available and provides from 600 sq. ft. up to 1250 sq. ft. of coverage in a maximum mounting height of 40'.

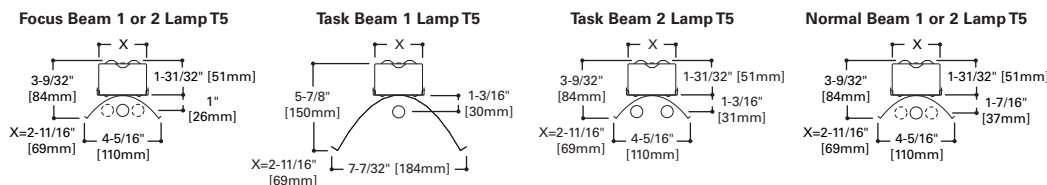


**MB**  
**154**  
**254**

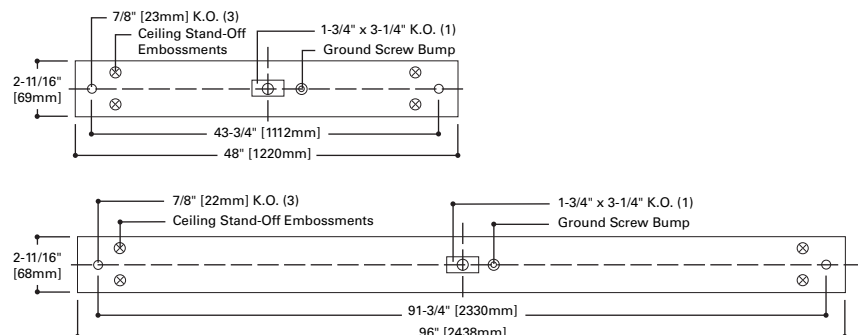
**4' OR 8' MICROBAY\***  
**1 OR 2 LAMP**  
**T5 Lamp Technology**  
**Task Beam**  
**Focus Beam**  
**Normal Beam**  
**\*Patent Pending**



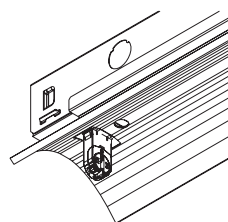
## LAMP CONFIGURATIONS



## MOUNTING DATA



## ISOMETRIC VIEW



## ENERGY DATA

Input Watts @ 120V:  
**Electronic Ballast & STD Lamps**  
154 (62)  
254 (117)  
454 (229)  
8T154 (117)  
8T254 (229)

Luminaire Efficacy Rating  
**LER = 69**  
Catalog Number: MB-154T5

Yearly Cost of 1000 lumens,  
3000 hrs at .08 KWH = \$3.47

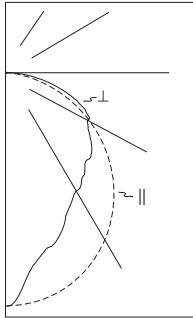
Reference the lamp/ballast data in the  
Technical Section for specific lamp/ballast  
requirements.

LAMPS CONTAIN MERCURY. DISPOSE ACCORDING  
TO LOCAL, STATE OR FEDERAL LAWS

**LINEAR DISCONNECT**  
Safe and convenient means of  
disconnecting power



## PHOTOMETRICS



**MB-254-TB-UNV-EBT1**  
 (1) Electronic Ballast  
 (2) 54WT5 lamp  
 4400 lumens  
 Spacing criterion:  
 (II) 1.2 x mounting  
 height, (⊥) 0.9 x  
 mounting height  
 Efficiency 95.3%  
 Test Report:  
 10579  
 LER =69  
 Yearly Cost of 1000  
 lumens, 3000 hrs at  
 .08 KWH = \$3.47

## Candela

Angle	Along II	45°	Across ⊥
0	3550	3550	3550
5	3526	3363	3199
10	3479	2995	2863
15	3399	2787	2716
20	3285	2637	2518
25	3142	2460	2267
30	2968	2202	2098
35	2767	1995	1995
40	2539	1830	1855
45	2296	1677	1813
50	2030	1505	1689
55	1749	1414	1524
60	1459	1251	1432
65	1150	1081	1317
70	852	974	1060
75	553	741	773
80	295	468	498
85	85	223	2450
90	5	50	69

## Coefficients of Utilization

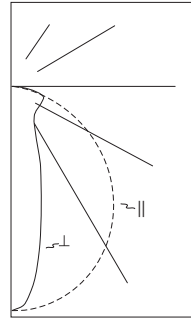
Effective floor cavity reflectance																20%					
rc	80%				70%				50%				30%				10%				0%
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0			
RCR																					
0	113	113	113	113	111	111	111	111	106	106	106	101	101	101	97	97	97	95			
1	104	99	95	92	101	97	93	90	93	90	87	89	87	85	86	84	82	80			
2	95	87	80	75	92	85	79	74	82	77	72	78	74	71	76	72	69	67			
3	87	77	69	63	84	75	68	62	72	66	61	70	65	60	67	63	59	57			
4	79	68	60	53	77	67	59	53	64	58	52	62	56	52	60	55	51	49			
5	72	60	52	45	70	59	51	45	57	50	44	55	49	44	53	48	43	41			
6	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36			
7	62	49	40	34	60	48	40	34	46	39	34	45	38	33	44	38	33	31			
8	57	44	35	30	55	43	35	30	42	35	29	40	34	29	39	33	29	27			
9	52	39	31	26	51	39	31	26	38	30	26	36	30	25	35	30	25	23			
10	49	36	28	23	47	35	28	23	34	27	23	33	27	23	32	27	22	21			

## Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	2285	26.0	27.2
0-40	3626	41.2	43.2
0-60	6319	71.8	75.3
0-90	8379	95.2	99.9
0-180	8388	95.3	100.0

## Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	188780	32821	35803
55	169445	33582	36677
65	140863	33957	42208
75	96146	35988	38836
85	26928	25590	30619



**MB-154-FB-UNV-EB51-U**  
 (1) Electronic Ballast  
 (1) 54WT5 lamp  
 4400 lumens  
 Spacing criterion:  
 (II) 1.2 x mounting  
 height, (⊥) 0.5 x  
 mounting height  
 Efficiency 105%  
 Test Report:  
 227P132  
 LER =-74  
 Yearly Cost of 1000  
 lumens, 3000 hrs at  
 .08 KWH = \$3.24

## Candela

Angle	Along II	45°	Across ⊥
0	3538	3538	3538
5	3528	3409	3281
10	3477	2970	2542
15	3393	2349	1786
20	3275	1777	1322
25	3126	1376	915
30	2944	1020	714
35	2734	752	613
40	2498	596	564
45	2239	504	543
50	1961	449	537
55	1663	416	534
60	1357	396	534
65	1043	378	534
70	729	364	535
75	438	353	473
80	197	289	312
85	39	131	135
90	0	0	0

## Coefficients of Utilization

Effective floor cavity reflectance													20%								
rc	80%				70%				50%				30%				10%				0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0			
RCR																					
0	125	125	125	125	122	122	122	122	117	117	117	112	112	112	107	107	107	105			
1	115	110	105	101	112	107	103	100	103	99	96	99	96	93	95	93	91	88			
2	105	97	90	84	102	95	88	83	91	86	81	88	83	79	84	81	77	75			
3	97	86	78	71	94	84	77	71	81	75	70	78	73	68	76	71	67	65			
4	89	77	69	62	87	76	68	62	73	66	61	71	65	60	69	64	59	57			
5	83	70	61	55	81	69	61	55	67	60	54	65	59	53	63	57	53	51			
6	77	64	56	49	76	63	55	49	62	54	49	60	53	48	58	52	48	46			
7	73	59	51	45	71	58	50	44	57	49	44	55	49	44	54	48	43	42			
8	68	55	46	41	67	54	46	41	53	46	40	52	45	40	50	44	40	38			
9	64	51	43	37	63	50	43	37	49	42	37	48	42	37	47	41	37	35			
10	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			

## Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1775	40.4	38.3
0-40	2479	56.3	53.5
0-60	3657	83.1	79.0
0-90	4632	105.3	100.0
0-180	4632	105.3	100.0

## Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	22714	5113	5509
55	20798	5203	6678
65	17703	6416	9064
75	12139	9784	13110
85	3210	10782	11111

## ORDERING INFORMATION

SAMPLE NUMBER: MB-132-NB-UNV-EB81-U

**Tandem Blank=**  
4' Length  
8T=  
8' Length

**Series**  
MB= Micro-Bay

**Number of Lamps**  
(Not included)  
1=1 Lamp  
2=2 Lamps

**Lamp Types**  
54T5=54WT5HO (4') Lamp

**Reflector**  
FB=Focus Beam  
TB=Task Beam (Medium)  
NB=Normal Beam

**Voltage**  
UNV=Universal 120-277 Voltage  
UNC=Universal 347/480 Voltage<sup>(4)</sup>

**Options**  
GL=Single Element Fuse  
GM=Double Element Fuse  
EL=Emergency Installed<sup>(2)</sup>

**Ballast Type<sup>(1)</sup>**  
**T5 Systems**  
EBT =T5 Linear Electronic Program Rapid Start. Total Harmonic Distortion < 10%<sup>(5)</sup>  
No. of Ballast  
1 or 2

EHT =T5 Linear Electronic Program Rapid Start High Ambient. Total Harmonic Distortion < 10%<sup>(6)</sup>  
No. of Ballast  
1 or 2

DIM=Consult Factory<sup>(6)</sup>

**Options**  
PI/CPI=Plug-In (1, 2 or 3)  
(see ordering information below)  
C3=3' Power Cord  
C6=6' Power Cord  
PC3=3' Power Cord & Plug (Specify Voltage)<sup>(3)</sup>  
PC6=6' Power Cord & Plug (Specify Voltage)<sup>(3)</sup>

**Packaging**  
U=Unit Pack

**Accessories** (order separately)  
GRIPPLE-Y=Y Mounting Toggle, #2 Cable (Specify 10' or 30') (Row Mount)  
GRIPPLE-TOGGLE=Single Toggle, #2 Cable (Specify 10' or 30') (Stand Alone)  
MB-EXT-LONG-CONN-KIT-U=Rigid Connector Support for Continuous Channel Installation  
MS=Aisle Coverage Motion Sensor<sup>(3) (6)</sup>  
MSO=360° Coverage Motion Sensor<sup>(3) (6)</sup>  
MB-SENSOR-KIT-CTR/MT-U=Aisle Coverage Motion Sensor, Center Mount Hardware, 120/277V  
MB-SENSOR-KIT-END/MT-U=Aisle Coverage Motion Sensor, End Mount Hardware, 120/277V  
MB-SENSOR-KIT-END/480V-U=Aisle Coverage Motion Sensor, End Mount Hardware, 480V

**NOTES:** <sup>(1)</sup>Products also available in non-US voltages and frequencies for international markets. <sup>(2)</sup>Voltage to be specified with emergency ballast option. <sup>(3)</sup>Voltage must be specified when ordered with plugs, motion or emergency ballasts. <sup>(4)</sup>2 lamp ballast configurations only in UNC versions. <sup>(6)</sup>Dimming ballast must be specified at time of order.

## PI OPTION ORDER INFORMATION

Catalog Number Suffix	Number of Circuits	Circuit Wired To Ballast
PI 1 BLK	1	Black
PI 2 BLU	2	Blue
PI 2 BLK	2	Black
PI 3 RED	3	Red
PI 3 BLU	3	Blue
PI 3 BLK	3	Black

### Catalog Numbering System

The PI System is available in sections up to 8' in length for continuous row wiring by simply plugging the sections together. Each PI section is factory wired to the ballast leads. Color coding of wires is as follows:

PI-1 = One Circuit - 2 Wires: one black, one white  
PI-2 = Two Circuits - 3 Wires: one black, one blue, one white  
PI-3 = Three Circuits - 4 wires: one black, one blue, one red, one white

When ordering the PI2/PI3 System it is necessary to specify the number of fixtures required for each circuit. Each circuit in fixture must be ordered as a separate line item, with a different hot wire color specified. All wiring to external feeds, using cord or cord & plug, are responsibility of installing licensed contractor. Cord and cord & plug sets must be ordered separately if PI option is chosen.

### PI1 - Single Circuit Plug-In

SAMPLE NUMBER: PI1BLK-WG

PI1= Single Circuit  
BLK=Black Hot  
NG= No Ground (ground provided by fixture body)  
WG= With Ground (separate ground wire in harness)

### PI3 - Three Circuit Plug-In

SAMPLE NUMBER: PI3BLK-WG

PI3= Three Circuit  
BLK=Black Hot  
BLU=Blue Hot  
RED=Red Hot  
Leave Blank=Single Neutral  
/WHT=White Neutral  
/GRY=Gray Neutral  
Leave Blank=Single Neutral  
2NEU=Two Neutrals  
NG= No Ground (ground provided by fixture body)  
WG= With Ground (separate ground wire in harness)

### PI2 - Two Circuit Plug-In

SAMPLE NUMBER: PI2BLK-WG

PI2= Two Circuit  
BLK=Black Hot  
BLU=Blue Hot  
Leave Blank=Single Neutral  
/WHT=White Neutral  
/GRY=Gray Neutral  
Leave Blank=Single Neutral  
2NEU=Two Neutrals  
NG= No Ground (ground provided by fixture body)  
WG= With Ground (separate ground wire in harness)

## SHIPPING INFORMATION

Catalog No.	Wt.
MB-154T5	6 lbs.